

minimum? We will take the medical cases first and the surgical cases next. What, in your opinion, in a medical ward, and in a surgical ward, is the minimum bed-space that a patient with safety can occupy. I do not mean the square or cubic space, but the bed-space between the beds?—It should not be less than 7ft. or 8ft.

2332. *The Chairman.*] That is for medical?—Yes; it should not be less.

2333. And for surgical?—I should increase it to 10ft. That would give you perfect safety.

2334. *Mr. Solomon.*] We allow 2ft. 6in. for the bed?—Yes.

2335. That will leave you from 5ft. to 6ft. between the beds?—Yes.

2336. What, in your opinion, is the minimum square space a patient could safely occupy?—I do not think anything under 110ft. or 120ft. safe. I am speaking now for general hospitals.

2337. *The Chairman.*] The total square space divided by the number of patients?—Yes.

2338. You say 110ft.?—Yes. A great many have 130ft. or 140ft., but the minimum I put at 110ft.

2339. *Mr. Solomon.*] And, in wards in which there are severe surgical cases, how much more ought to be allowed?—I should say 140ft. or 150ft. in severe cases.

2340. *The Chairman.*] That means, in surgical wards, it should be 140ft., because you cannot alter a ward when a case comes in?—That is so.

2341. You mean 110ft. for medical, but 140ft. for surgical?—Yes. I do not attach so much importance to floor and cubic space as I do to the air per head per hour.

2342. *Mr. Solomon.*] What do you think is the minimum cubic space that should be allowed in surgical wards?—2,000ft.

2343. *The Chairman.*] And for medical?—175ft.; and for special cases—lying-in or gynecological—you should have more still.

2344. How much more?—200ft. or 300ft., or even 500ft., or as much as you can possibly get.

2345. *Mr. Solomon.*] You wished also to say you attach more importance to the constant renewal of air?—Just so, and for this reason: you might have patients in a room with 3,000 cubic feet space, and the room might be hermetically sealed, which would result in the patients being all dead in a fortnight. You want to have the air constantly renewed.

2346. Is the amount of room the least necessary condition?—No; because you cannot get the amount of air per head per hour unless you have proper cubic space.

2347. You have "Buck" in your hand. Will you show me the pages for the figures you have given us?—Yes.

2348. Is that recommended as an authority?—Yes.

2349. Will you turn to the pages that refer to it, and tell these gentlemen what he says on the subject? What does he say on the subject of sufficient bed-space and so on? There is a table on the square space there?—Yes. He says: "A greater width than 30ft. has been found to interfere with a due system of ventilation, and a width of less than 24ft. gives insufficient space for two rows of beds. The width of the ward may best be put at 24ft. to 25ft. The beds may be set 1ft. from the wall, which makes it easy to approach them from all sides, and conduces both to cleanliness and to efficient ventilation. If the beds are 6½ft. in length this will give a clear passage between them of 9ft. to 10ft."

2350. *The Chairman.*] Does he give any reason for saying 30ft.?—He does not; but I suppose he arrives at that conclusion somewhat in the same way that he decides that if walls are too high ventilation does not go on. I dare say it has been tested in some way. He says "The beds may be set 1ft. from the wall, which makes it easy to approach them from all sides. . . . If the beds are 6½ft. in length this will give a clear passage between them of 9ft. or 10ft."

2352. That is for a passage between the ends of the beds?—Yes. Buck goes on to say: "It may be given as a general rule that a medical ward for twenty patients should be, at the smallest, of the following dimensions: Length, 80ft.; width, 25ft.; and height from 16ft. to 20ft."

2353. Does he give any reason why there should be less than twenty patients in a ward?—He says, "Each patient would then have about 100 superficial and 1,600 cubic feet of space. For surgical cases the number of patients in the ward would be smaller. Sixteen patients in the same space would each have 2,000 cubic feet, and where such a room is used as an isolating or foul ward not more than ten patients should be accommodated, which would give to each 3,000 cubic feet."

2354. *Mr. Solomon.*] That would give them 16ft. to a bed, would it not?—It would give each bed 3,000 cubic feet of air.

2355. Now, in your opinion, is it more or less necessary to be particular about keeping the wards free from crowding when ventilation is defective?—Certainly it is necessary to be careful about over-crowding, and you must not overcrowd your wards.

2356. Did you measure the wards in this Hospital?—No.

2357. You noticed, however, how far the beds were apart?—Yes.

2358. And what did you find?—They were very irregularly placed. Some were 18in. apart, and others from 2ft. to 2ft. 6in. Some might have been a little more.

2359. *The Chairman.*] Was that in a surgical or a medical ward?—I do not know. It was in No. 1, and in another upstairs.

2360. *Mr. Solomon.*] No. 1 is a surgical ward?—The bedsteads might have been about 2ft. 6in. apart, but the clothes overhung them, and there was certainly not more than 18in. distance in these cases.

2361. Now, do you think that what you saw on that point—as to the beds being close together—shows that anything like a safe state of affairs exists?—It is overcrowded, no doubt, and ever since I first saw it I had that idea.

2362. *The Chairman.*] That is, from 1875?—Yes, when I went over it with Dr. Hulme.

2363. *Mr. Solomon.*] Is the system of ventilation a trifling matter, or a serious one that calls for amendment?—It is serious, of course.